

DOCUMENT RESUME

ED 193 107

SO 012 806

AUTHOR Botkin, James W.
 TITLE Implications of an Information Age for Global Issues in North and South.
 PUB DATE 21 Jul 80
 NOTE 8p.; Paper presented at Annual Meeting of the Global Conference on the Future (1st, Toronto, Canada, July 21, 1980).

EDRS PRICE MF01/PC01 Plus Postage.
 DESCRIPTORS Developed Nations; Developing Nations; Educational Policy; *Futures (of Society); *Global Approach; Information Processing; Information Science; *Information Systems; *Information Utilization; Postsecondary Education; Telecommunications; World Problems

ABSTRACT

Implications of the "Information Age" of telecommunications and microprocessing for global issues are examined. Presently, the Japanese, British, and French are leaders in the development of information software and in the creative fashioning of new institutional arrangements to use the new systems. In the West, the implications of an information age on global issues depend on whether information resources will be brought to bear on global issues and whether they will be used creatively to do so. A concerted effort to use telecommunications and microprocessing in creative ways is needed. Success depends on the evolution of the structure of the information software enterprise and the kind of learning that underlies usage of information systems. Relevant educational policies need to encompass in-school and out-of-school education, and should stress group anticipation rather than individual adaption. Another implication is that globally shared thinking still preserves cultural diversities. Because the planet is rapidly moving toward a three-world stereotype (countries in the information age: newly industrial, oil-rich, and socialist countries; and developing countries) it may become increasingly difficult to share the common learning and thinking processes which are necessary to build consensus. A solution to the information gap problem lies in decentralizing the software functions of the information revolution. As many people as possible should be enabled to perform functions such as having access to data banks, contributing information, formulating computer programs to analyze information, and disseminating results. (Author/KC)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

SEP 02 1980

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Implications of an Information Age
for Global Issues in North and South

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

James W. Botkin

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

Paper by Dr. James W. Botkin
The Learning Project
26 Grozier Road
Cambridge, Mass. 02138

Presentation for the Forum Humanum,
"First Global Conference on the Future",
Toronto, Canada, July 21, 1980

ED193107

Recent developments in telecommunications and microprocessing are fashioning a new reality out of the old notion of an "Information Age" precisely at a time when the analyses of global issues stand ready for new thinking. These developments also come at a time when East-West relations are again deteriorating, when the North is as economically and politically distant as ever from the South, and when the West is experiencing its first real economic decline--first, that is, for the majority of us born since the great depression and W.W. II.

New initiatives and renewed thinking about global issues are urgent.

806 This is not to say that material global issues like energy, food, and
806 population have disappeared or that concerns for the ethical and moral
210 crises of individuals and societies are somehow passe. Both the material
012 constraints to selective growth and the development of human resource
5 potentials towards a better future should be a permanent part of the long
5 term agenda. After a decade of discussing global issues, this agenda is
fairly well mapped out (although undoubtedly new issues will present
themselves). Two things seem to me to be needed. One is to associate more
people, especially unestablished younger thinkers, with movements and

thinking about global issues and the transition to a "new age". Another is to stimulate not only new thinking but shared thinking.

I could express this another way. Not only is too little being done to support new participants in the global issues debates, but we still face immense hurdles—technological and cultural—towards linking on-going work and developing common understandings around the world in ways that still respect cultural diversities. (This latter is a very profound and practical problem—witness the difficulties experienced by the Canadian organizers of this conference to make this conference "global". We have relatively few Third World participants and almost no one from the socialist countries.)

A question I want to raise is to what extent the much-heralded Information Age presents an opportunity for a new step forward in stimulating new and shared global thinking, or, to what extent it may present the risk of two steps backwards into old self-serving nationalistic mentalities. I will do this by examining several implications of an Information Age for Global issues in North and South.

The Future of the West

The future of the West is as inextricably tied to the development of an Information Economy as it is to the course of the arms race. Quantitatively, over 50% of the U.S. labor force is now engaged in the information industry, according to Robert Hamrin* in his excellent new book entitled Managing Growth in the 1980's—just as 50% of our scientists are engaged in military-related matters. When this labor force can accelerate its productivity, as it will

*Robert Hamrin, Managing Growth in The 1980's: Towards a New Economics, Praeger Press, New York, 1980.

when regional and global telecommunications infrastructures are firmly in place and when the products of microprocessing are fully in hand, then incalculable qualitative effects are inevitable.

The Information Age has already arrived to the Japanese Ministry of International Trade and Industry, to the British Post Office, to the French TV industry, and to Lockheed and McGraw-Hill in the USA. So far, only in Japan has it arrived in coherent fashion. In "The Plan for an Information Society: A National Goal Toward the Year 2000", prepared for the Japanese Ministry of International Trade and Industry, and extraordinary series of steps are foreseen that would multiply the current information industry by sixty and lead to an "intelligence-intensive" society, one of whose cornerstones is meant to be intellectual creativity. One is tempted to say that information and knowledge must be considered among the most prominent features of Japan's— if not all the West's—cultural identity.

Within the OECD countries, I find it noteworthy that not only the Japanese but also the British and to some extent the French are outpacing the Americans and Canadians in the development of information software and in the creative fashioning of new institutional arrangements to use and promote the new systems. The PRESTEL viewdata system being assembled and marketed by the British Post Office is probably the most impressive operable systems at present—as is the ANTIOPE videotext system in France the most conceptually elegant. (ANTIOPE is the creation of a consortium of five major entities in the French television sector.)

One thing that distinguishes the European and Japanese developments is that they stem from conscious "government-driven demand", whereas in North

America we are still trusting in "market-driven demand". This competitive pressure internal to the West will cause the Information Economy to spread throughout all the OECD countries. I would not be surprised to learn that even the United States will develop a National Growth Policy (NGP) based on the Information Industry. (As an aside, I also think that a second feature of an NGP in addition to information will be food production—a reliance on low energy, high technology, artificially produced food to generate export earnings to pay for energy. To put this another way: the U.S. is likely to try to take seriously its comparative advantages in biotechnology as well as cyber-technology.)

The coming of such an Information Age to the West is going to have a strong impact on global issues in two ways. First, it will affect the way we perceive, analyze, and deal with global issues. Here, the linkage between an Information Society and the future directions of our thinking about global issues will be formed by another—and decisive—factor: learning and education. Second, an Information Age will itself bring with it certain substantial global issues. Those most visible are issues bound up in the phrase "New World Information Order" and the problems associated with a staggering situation of global unemployment.

In the short time available, I would like to make a few observations about the premium put on learning by an Information Age and about some problems of a North-South information gap that, in the absence of strong counter-measures, may widen considerably.

Learning and Information Software

In the West, what effect will an Information Age have on global issues?

Will information resources be brought to bear on global issues, and if so, will they be used creatively or will they simply reinforce prevailing stereotypes? Answers to questions like these depend on two developments: the evolution of the structure of the information software enterprise and the kind of learning that underlies our usage of information systems.

The record to date has not been outstanding. Information technologies are already outrunning our intellectual ability to use them. To put it another way: computers are laughing at us because we ask of them such silly things—home computers that turn on or off my badly brewed coffee, or cable TV that enlarges my choice of poor programs. What is needed is a concerted effort to use telecommunications and microprocessing in creative ways. To do so, to foster innovative use of an Information Society, carries with it a set of learning prerequisites that can be expressed as educational policies. These policies need to encompass both in-school and out-of-school education, and should stress group anticipation rather than individual adaption.

The type of learning I have in mind is described in Ezra Vogel's book, Japan as Number One*. He says that the determinants of Japanese success are the "group directed quest for knowledge" and the "constant concern about the future of organizations". This is the type of innovative learning needed to use an Information Age creatively, to avoid wasting an opportunity for new shared thinking as television has television has been wasted.

Learning, Information and The Third World

The same learning prerequisites exists also in the Third World. The problems of creating and supporting policies for innovative learning are intensified by poverty, unemployment, and cultural factors. But a further

*Ezra Vogel, Japan as Number One: Lessons for America, Harvard University Press, Cambridge, Mass., 1980.

issue exists. If an Information Age comes to the West, what will be its impact on North-South relations? Will it promote shared thinking that still preserves cultural diversities?

My own sense is that it will do so, but probably not in the short run and not without conscious efforts to do so. The planet is rapidly moving towards a new "three world" stereotype: a group of countries (largely the West) in the Information Age; several groups of countries in the Industrial Age—the newly industrial countries ("NIC's"), the oil rich countries ("ORC's") and most of the socialist countries; and a large group of traditional developing countries largely in an Agricultural Age but subject to the pressures of industrialization and to the challenges of Western information content and information processing methods and mentalities.

In the short run, we are likely to see an information gap that will widen. Of course, a certain information gap already exists. For example, gaps in resources for formal education are already three times greater between North and South than are overall economic gaps.*

The consequences of an information gap are potentially much more serious than implied by the word "information". It is not just a question of one group of people having information and the others do not. The bulk of the iceberg of which information access is the tip is that it may become increasingly difficult to share the common learning and thinking processes which are necessary to build consensus.

I believe the solution to the information gap problem lies in decentralizing the software functions of the information revolution. As many people as

*See J. Botkin, et al, No Limits to Learning: A Report to the Club of Rome, Pergamon Press, Oxford, 1979.

possible should be enabled to perform functions such as having access to data banks and other information, contributing information (and in some cases, deleting erroneous information), formulating computer programs to analyze information, disseminating results, etc.

The slogan should become "keep the telecommunications revolution revolutionary!" and "microprocessors to the people!"